



AMENDMENTS TO THE CLAIMS

1-37. (CANCELED)

38. (CURRENTLY AMENDED) A radio for transmitting and receiving, via an antenna, of a plurality of high-frequency signals in a time-division-duplex mode on a single IC chip, the radio comprising:

a circuit path adapted to connect the antenna to a data output port and to a data input port, wherein the circuit path comprises:

(1) a down-conversion section for down-converting received high-frequency signals of the plurality of high-frequency signals;

(2) a bandpass filter for filtering signals derived from the received high-frequency signals;

(3) a detector for detecting a received data signal from a received filtered signal, wherein the received data signal is sent to the data output port; and

(4) an up conversion section for up converting an information signal received from the data input port to a high-frequency signal of the plurality of high-frequency signals; wherein the circuit path comprising the bandpass filter, the detector, the up conversion section, and the down-conversion section is integrated into the single IC chip; and

wherein bandpass filtering operations are performed by components integrated into the single IC chip; and

automatic re-transmission request error correction means for data transfer.

39. (PREVIOUSLY PRESENTED) The radio of claim 38, wherein the up conversion section comprises a variable controlled oscillator.

40. (PREVIOUSLY PRESENTED) The radio of claim 38, wherein the up conversion section comprises a directly modulated variable controlled oscillator.

41. (PREVIOUSLY PRESENTED) The radio of claim 38, wherein the radio comprises an image-rejection-mixer stage.

42. (CANCELED)

43. (PREVIOUSLY PRESENTED) The radio of claim 38, further comprising autotuning means for autotuning a plurality of filters and the detector.

44. (PREVIOUSLY PRESENTED) The radio of claim 38, further comprising a digital power-down control circuit to provide power-down control for the radio, wherein the power-down control circuit is integrated into the single IC chip.

45. (PREVIOUSLY PRESENTED) The radio of claim 38, further comprising a low-power oscillator integrated into the single IC chip.

46. (CURRENTLY AMENDED) The radio of claim 38, wherein the ~~signal~~ signals derived from the received high-frequency signals of the plurality of high-frequency signals ~~is a~~ are low intermediate frequency ~~signal~~ signals.

47. (PREVIOUSLY PRESENTED) The radio of claim 38, wherein the circuit path further comprises a low-pass filter for filtering the received data signal output by the detector and the low-pass filter is connected to the detector and the data output port.
48. (PREVIOUSLY PRESENTED) The radio of claim 38, further comprising the antenna.
49. (CANCELED)
50. (CANCELED)
51. (CANCELED)
52. (CANCELED)
53. (CURRENTLY AMENDED) A radio for transmitting and receiving, via an antenna, of a plurality of high-frequency signals in a time-division-duplex mode on a single IC chip, the radio comprising:
a circuit path adapted to connect the antenna to a data output port and to a data input port, wherein the circuit path comprises:
(1) a bandpass filter for filtering signals derived from the received high-frequency signals;
(2) a detector for detecting a received data signal from a received filtered signal, wherein the received data signal is sent to the data output port; and
(3) an up conversion section for up converting an information signal received from the data input port to a high-frequency signal of the plurality of high-frequency signals;
(4) a shaping filter connected to an input of the up-conversion section;
wherein the circuit path comprising the bandpass filter, the detector, the up conversion section, and the shaping filter is integrated into the single IC chip; and
wherein bandpass filtering operations are performed by components integrated into the single IC chip; and
automatic re-transmission request error correction means for data transfer.
54. (PREVIOUSLY PRESENTED) The radio of claim 53, wherein the up conversion section comprises a variable controlled oscillator.
55. (PREVIOUSLY PRESENTED) The radio of claim 53, wherein the up conversion section comprises a directly modulated variable controlled oscillator.
56. (PREVIOUSLY PRESENTED) The radio of claim 53, wherein the radio comprises an image-rejection-mixer stage.
57. (CANCELED)
58. (PREVIOUSLY PRESENTED) The radio of claim 53, further comprising autotuning means for autotuning a plurality of filters and the detector.

59. (PREVIOUSLY PRESENTED) The radio of claim 53, further comprising a digital power-down control circuit to provide power-down control for the radio, wherein the power-down control circuit is integrated into the single IC chip.

60. (PREVIOUSLY PRESENTED) The radio of claim 53, further comprising a low-power oscillator integrated into the single IC chip.

61. (CURRENTLY AMENDED) The radio of claim 53, wherein the ~~signal~~ signals derived from the received high-frequency signals of the plurality of high-frequency signals ~~is a~~ are low intermediate frequency ~~signal~~ signals.

62. (PREVIOUSLY PRESENTED) The radio of claim 53, wherein the circuit path further comprises a low-pass filter for filtering the received data signal output by the detector and the low-pass filter is connected to the detector and the data output port.

63. (PREVIOUSLY PRESENTED) The radio of claim 53, further comprising the antenna.